

v6' in the envelope curve detecting units 356 and 357, respectively. The displacement signals v5' and v6' are subjected to differential calculation in the differential arithmetic unit 374, and the result is outputted as a voltage signal v8. Further, the voltage signals v5 and v7 outputted from the I-V converting units 354 and 355 are adjusted in the variable gain amplifying units 478 and 479 such that the maximum amplitudes of the periodic signals become equal to each other, and then detected as displacement signals v5' and v7' in the envelope curve detecting units 358 and 359, respectively. The displacement signals v5' and v7' are subjected to differential calculation in the differential arithmetic unit 375, and the result is outputted as a voltage signal v9.